

## ABSTRACT

A color sensor is implemented on a single integrated circuit chip. The color sensor includes a plurality of color sensor circuits and a gain selection control. Each color sensor circuit in the plurality of color sensor circuits includes a light detector, an amplifier and a gain selection circuit. The amplifier is connected to the light detector. The amplifier amplifies a signal from the light detector. The gain selection circuit is connected to the amplifier. The gain selection controls gain of the amplifier. The gain selection circuit includes a variable feedback resistance. The gain selection control selects a separate value of the variable feedback resistance for each color sensor circuit.